Remarks

Reconsideration and withdrawal of the rejection of the claims, in view of the amendments and remarks herein, is respectfully requested. Claims 1, 5, 17, 36, 41-42, 44, and 48 are amended, and claims 49-50 are added. The amendments are intended to advance the application and are not intended to concede to the correctness of the Examiner's position, e.g., as discussed below, or to prejudice the prosecution of the claims prior to amendment which claims are present in a continuation of the above-identified application. Claims 1, 3, 5, 17-18, 31, 34, 36, 39, 41-42, and 44-50 are now pending in this application.

The Examiner rejected claims 1, 3, 5, 17-18, 31, 34, 36, 39, 41, and 48 under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. This rejection is respectfully traversed.

In particular, the Examiner asserts that 1) the specification does not provide written support for "wherein the endogenous antigen is Factor VIII or Factor IX," and 2) the specification does not disclose a representative number of species with the recited property.

With respect to basis 1 of the rejection, the Examiner is requested to consider page 7, lines 10-15, page 9, line 28-page 10, line 7, and page 10, lines 22-25 of the specification. From those pages, it is clear that certain hemophilia patients, such as hemophilia A patients, lack a protein, e.g., Factor VIII, which is normally expressed in (endogenous to) humans.

With respect to basis 2 of the rejection, the specification discloses that for patients that have already developed pathological antibodies to an antigen, e.g., Factor VIII, the use of universal $CD4^+$ epitopes on the antigen could treat existing antibodies and/or prevent antibody development (page 63, lines 6-28). Example II in the specification discloses that Factor VIII inhibitors, e.g., anti-Factor VIII antibodies, are present in 25% of patients with severe hemophilia A. It is also disclosed that the synthesis of Factor VIII inhibitors requires the action of $CD4^+$ T helper cells specific for Factor VIII. Example II discloses that pools of Factor VIII peptides were used to identify regions of Factor VIII that were strongly recognized by $CD4^+$ cells of healthy individuals. Each peptide was 20 residues in length and overlapped the N- and/or C-

terminal Factor VIII peptide by 10 residues. For some experiments, peptide pools corresponding to domains of Factor VIII, e.g., A1 (residues 20-356 see GenBank Accession No. EZHU), A2 (392-759), A3 (1709-2038), C1 (2039-2191) and C2 (2192-2351), were prepared ("domain pools"). It is disclosed that domain pools from the A2, A3 and C2 domains of Factor VIII were the most strongly recognized in these individuals. Moreover, individual peptides within the tested pools were also strongly recognized by $CD4^+$ cells from hemophilia A patients, autoimmune hemophilia A patients and normal healthy individuals (see copending, commonly assigned U.S. application Serial No. 09/595,990).

Thus, Example II describes Factor VIII peptides useful to prevent or inhibit a pathological condition associated with aberrant, pathogenic or undesirable antibody production, i.e., those useful to tolerize a human to an antigen associated with aberrant, pathogenic or undesirable antibody production. Therefore, Applicant has described more than one species of Factor VIII epitope peptide useful in the methods of the invention.

Accordingly, withdrawal of the § 112(1) rejection is appropriate and respectfully requested.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6959 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date July 12, 2004 By _____
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Reg. No. 39,665

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 12th day of July, 2004.

Dawn M. Poole
Name

Dawn M. Poole
Signature